

**REMARKS**

Claims 2 and 12-20 are pending in this application.

**I. Ijntema And Pacholok**

Applicant confirms that the electronic image file wrapper contains a PTO-892 form dated January 16, 2008 that cites Ijntema and Pacholok. However, Applicant's copy of the January 16, 2008 Final Rejection did not include the January 16 PTO-892 form and the checkbox in the Office Action Summary sheet for the January 16 Final Rejection for "Notice of References cited (PTO-892)" is not checked. To the contrary, as can be verified in the image file wrapper, the checkbox for "Notice of References cited (PTO-892)" in the Office Action Summary page of the January 16 Final Rejection appears to have been checked, but then whited out (as parts of the checkbox outline are whited out). For these reasons, Applicant requested that Ijntema and Pacholok be made of record. The Examiner is thanked for forwarding the PTO-892 with the Advisory Action.

**II. Antecedent Basis for "Judgment Circuit"**

The June 6, 2008 Advisory Action states that the amendments in the May 22, 2008 Amendment After Final Rejection were not entered because, *inter alia*, the amendments to claims 12 and 13 would have added a "judgment circuit" to these claims that, as alleged by the Advisory Action, would not have had antecedent basis. The Advisory Action is not correct. Claim 2, the base claim for both claims 12 and 13, recites that the "degradation judgment circuit" includes a "judgment circuit." Thus, "judgment circuit" finds antecedent basis in claim 2.

**III. The Claims Are Patentable Over The Applied References**

The January 16 Office Action (1) rejects claims 2, 12 and 14-19 under 35 U.S.C. §103(a) over U.S. Patent No. 7,061,139 to Young et al. (Young) in view of U.S. Patent No. 4,775,827 to Ijntema et al. (Ijntema); (2) rejects claim 13 under 35 U.S.C. §103(a) over

Young in view of Ijntema, and further in view of U.S. Patent No. 5,196,780 to Pacholok; and (3) rejects claim 20 under 35 U.S.C. §103(a) over Young, in view of Ijntema, and further in view of U.S. Patent No. 6,295,215 to Faria et al. (Faria). Applicant respectfully traverses the rejections.

Regarding independent claim 2, Young and Ijntema fail to disclose (1) "a control circuit for controlling an output voltage of the converter to be lower than a steady state voltage"; and (2) "a judgment circuit that judges the degradation of the storage battery based on a charging time of the storage battery from a time when the control circuit controls the output voltage of the converter to return to the steady state voltage to a time when the battery is fully charged."

Ijntema fails to disclose the control circuit of feature (1) quoted above because Ijntema does not disclose that control means 8, cited by the Office Action as corresponding to the claimed control circuit, controls the output voltage of a converter to be lower than a steady state voltage, so as to cause the storage battery to discharge at a more limited current than the rated current of the storage battery. As can be seen in Fig. 1, the control means 8 does not output any signals to the power supply 1. Instead, control means 8 controls the adjusting means 10 and 11, the clock 13, and time measuring means 12 (Fig. 1; col. 2, lines 25-26). Ijntema discloses details of the control circuit 8 in Fig. 3. Thus, the control circuit 8 consists of two AND-gates 20 and 21 that receive a signal that is high when switch S1 is closed and a signal that is high when the power supply circuit 1 is connected to the mains and that output a signal to the first adjusting means 10 in the battery-saving mode and to second adjusting means 11 in the battery-charging mode (col. 8, lines 13-26). Ijntema does not disclose controlling the output voltage of a converter to be lower than a steady state voltage as claimed.

Ijntema fails to disclose the judgment circuit of feature (2) quoted above because Ijntema only discloses that the charge status of the battery 4 is detected, either by the elapsed discharge time or the elapsed charging time. While the voltage detector 7 can detect when the battery floor has a voltage equal to 10% of the nominal battery capacity, Ijntema nowhere discloses that any determination is made as to whether the battery has degraded and Ijntema further does not disclose measuring the "charging time of the storage battery" "from a time when the control circuit controls the output voltage of the converter to return to the steady state voltage to a time when the battery is fully charged", as claimed, and thus cannot determine degradation of the storage battery based on such a charging time.

The Office Action cites to time measuring means 12; col. 2, lines 29-36; and col. 5 at no specified or cited lines, as disclosing this feature. However, as disclosed by Ijntema, the time measuring means 12 compares the actual discharge of the battery 4 to the stored value of the discharge time of the battery 4, and the time measuring means 12 outputs a signal indicative of the calculated charge status (col. 4, lines 28-37). Thus, the time measuring means 12 does not detect degradation of battery 4.

Pacholok discloses a Ni-Cad battery charging circuit in which a timer 18 controls the time of switching from a fast charge to a slow charge (Fig. 2). Faria is cited as disclosing pulse width modulation (PWM). Thus, Pacholok and Faria fail to cure the deficiencies of Young.

Thus, independent claim 2 and its dependent claims 12-20 are patentable over the applied references. For the foregoing reasons, Applicant requests withdrawal of the rejections.

**IV. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:

Request for Continued Examination

Date: June 16, 2008

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